

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P776631

Luminaire Tested: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-3000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776631
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B009)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-3000K
Description: 4 INCH SQUARE MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4095.1 lumens
Efficiency: N/A
Efficacy: 85.3 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.14 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

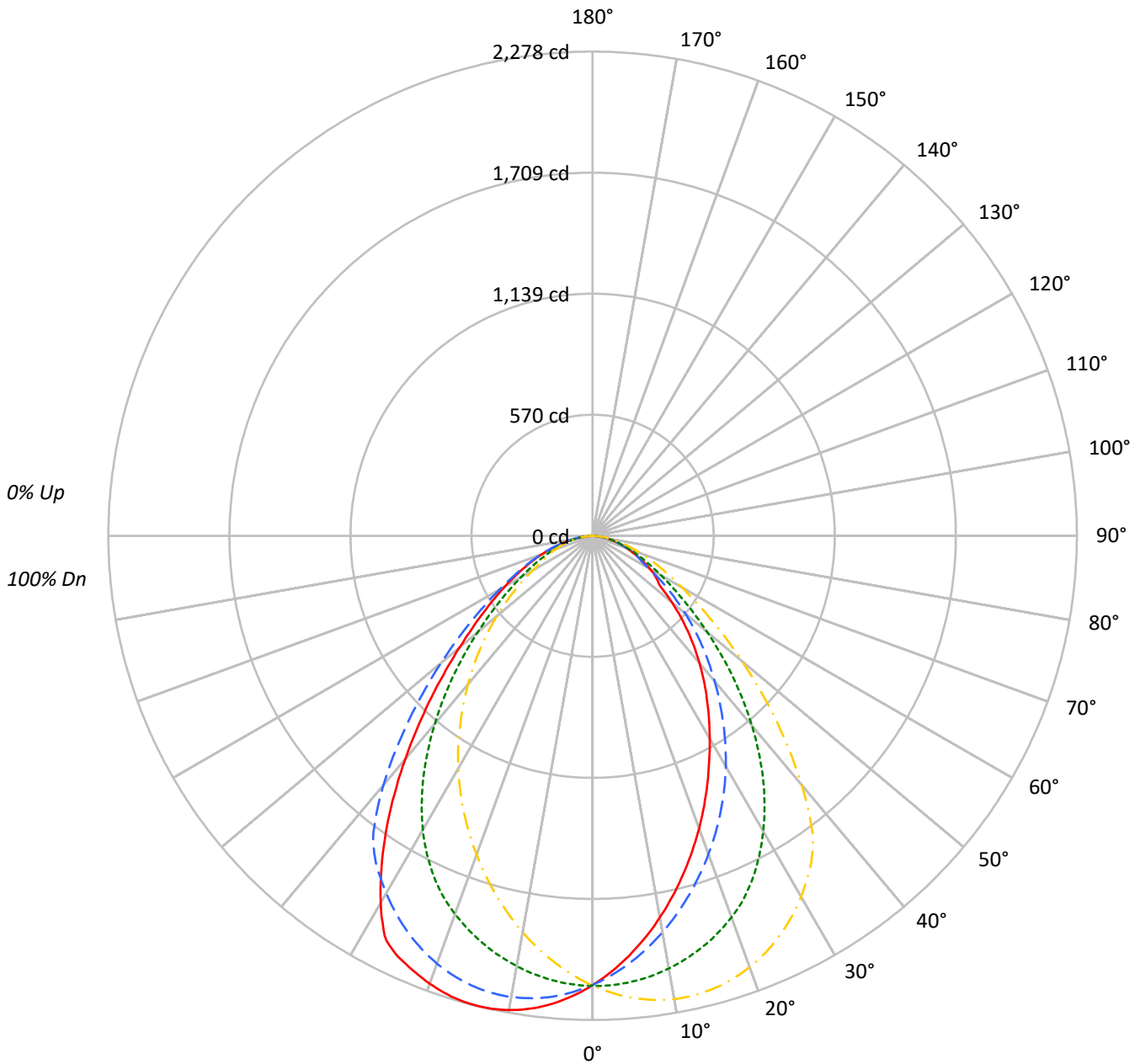
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20				
RC	80					70					50					30				
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88		
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76		
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66		
4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	69	64	60	58		
5	81	70	62	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52		
6	75	63	55	50	74	62	55	49	61	54	49	59	53	49	58	52	48	46		
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42		
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38		
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34		
10	58	46	38	34	57	45	38	34	44	38	33	43	37	33	43	37	33	32		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	266160	266160	266160	266160
5°	250387	266115	279329	265420
10°	232976	264144	289562	262777
15°	214652	260774	296486	258781
20°	196122	255867	300290	253563
25°	177546	247157	302506	245476
30°	160083	233266	289649	232118
35°	143971	214781	260103	213214
40°	128389	191507	224939	189749
45°	112376	164968	190188	163972
50°	95427	137267	160272	138167
55°	82477	112537	137111	115499
60°	78480	93431	119507	97760
65°	70277	78854	105714	84393
70°	62921	67852	93168	74034
75°	55578	58495	79988	65497
80°	43774	48847	61965	57254
85°	21515	35522	29457	46929

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 225°
 Vertical Angle: 45°
 Luminance: 216813 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	198.9	4.9
10°-20°	556.2	13.6
20°-30°	803.3	19.6
30°-40°	864.2	21.1
40°-50°	717.2	17.5
50°-60°	482.6	11.8
60°-70°	292.0	7.1
70°-80°	147.6	3.6
80°-90°	33.2	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1558.4	38.1
0°-40°	2422.6	59.2
0°-60°	3622.4	88.5
0°-90°	4095.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4095.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2115	2115	2115	2115	2115	
5°	1982	2106	2211	2101	1982	184
15°	1648	2002	2276	1986	1648	461
25°	1279	1780	2178	1768	1279	587
35°	937	1398	1693	1388	937	586
45°	631	927	1069	921	631	486
55°	376	513	625	526	376	343
65°	236	265	355	283	236	235
75°	114	120	164	135	114	121
85°	15	25	20	32	15	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9
0.5°	2102.3	2102.3	2104.7	2109.3	2118.1	2121.4	2124.2	2125.6	2125.6	2123.7	2120.9
1°	2090.3	2091.2	2096.3	2104.7	2118.1	2125.6	2132.1	2135.8	2136.7	2133.9	2128.4
1.5°	2077.7	2079.6	2087.5	2099.6	2117.7	2129.3	2139.5	2145.6	2147.4	2143.2	2135.3
2°	2065.2	2068.0	2078.2	2094.0	2116.7	2133.0	2146.5	2155.3	2157.6	2152.5	2142.8
2.5°	2051.7	2055.4	2068.4	2088.4	2115.8	2136.3	2153.5	2164.1	2167.4	2161.8	2149.3
3°	2038.7	2043.3	2059.1	2082.4	2114.4	2139.5	2160.0	2173.0	2177.1	2170.2	2155.3
3.5°	2024.8	2030.3	2048.9	2076.3	2113.0	2141.8	2166.0	2181.8	2186.0	2178.5	2161.4
4°	2010.8	2017.8	2038.2	2069.8	2110.7	2144.6	2172.0	2189.7	2194.8	2186.4	2166.9
4.5°	1996.4	2003.8	2027.5	2062.9	2108.9	2146.5	2177.6	2197.1	2203.2	2193.9	2171.6
5°	1982.0	1990.8	2016.9	2055.9	2106.5	2148.3	2182.7	2204.6	2211.1	2200.8	2176.7
5.5°	1966.7	1976.9	2005.2	2048.5	2103.7	2149.7	2187.4	2211.5	2218.5	2207.3	2180.9
6°	1951.8	1962.5	1994.1	2041.0	2101.0	2151.1	2191.6	2218.0	2225.5	2213.9	2185.0
6.5°	1936.9	1947.6	1982.5	2033.1	2097.7	2151.6	2195.7	2223.6	2232.0	2219.4	2188.8
7°	1921.1	1933.7	1970.4	2025.7	2094.0	2152.1	2199.4	2229.2	2238.5	2224.5	2192.0
7.5°	1904.9	1918.4	1957.9	2016.9	2090.3	2152.1	2202.7	2234.3	2244.1	2229.6	2194.8
8°	1889.6	1903.5	1945.8	2008.5	2086.1	2152.1	2205.5	2239.4	2249.2	2234.3	2197.1
8.5°	1873.3	1888.2	1933.2	1999.7	2081.4	2151.6	2207.8	2243.6	2254.3	2238.0	2199.0
9°	1856.6	1872.8	1920.2	1990.8	2076.8	2150.7	2210.1	2247.3	2258.5	2241.7	2200.8
9.5°	1839.8	1856.6	1906.7	1981.1	2072.1	2149.3	2212.0	2250.6	2262.2	2245.0	2202.2
10°	1823.1	1840.8	1893.7	1971.8	2067.0	2147.9	2213.4	2253.8	2265.9	2247.8	2203.2
10.5°	1805.9	1825.0	1880.3	1962.0	2061.5	2146.0	2214.3	2256.6	2268.7	2250.1	2204.1
11°	1789.2	1808.7	1866.8	1952.3	2055.9	2144.2	2214.8	2258.5	2271.5	2251.9	2204.1
11.5°	1772.0	1792.5	1852.9	1941.6	2049.8	2141.8	2214.8	2260.3	2273.3	2253.3	2203.6
12°	1753.9	1776.2	1838.4	1931.4	2043.8	2139.0	2214.8	2261.7	2275.2	2254.3	2203.2
12.5°	1736.7	1759.0	1824.5	1920.7	2037.3	2136.3	2214.3	2262.2	2276.6	2255.2	2202.2
13°	1719.5	1742.3	1810.1	1910.0	2030.8	2133.0	2212.9	2262.6	2277.0	2255.2	2200.8
13.5°	1701.4	1725.5	1795.7	1899.3	2023.8	2129.3	2211.5	2262.6	2277.5	2254.7	2199.0
14°	1683.7	1708.8	1780.4	1888.2	2016.9	2125.1	2209.7	2262.2	2277.5	2253.8	2196.7
14.5°	1665.6	1691.6	1765.5	1876.5	2009.4	2121.4	2207.8	2261.2	2276.6	2252.4	2193.9
15°	1647.5	1673.5	1750.6	1864.9	2001.5	2116.7	2205.0	2259.8	2275.6	2251.0	2191.1
15.5°	1629.4	1656.3	1735.8	1853.3	1993.6	2112.1	2202.2	2258.0	2274.3	2249.2	2187.8
16°	1611.3	1639.1	1720.4	1841.7	1985.7	2106.5	2199.0	2255.7	2272.4	2246.8	2184.1
16.5°	1593.6	1621.5	1704.6	1829.6	1977.4	2101.4	2195.3	2253.3	2270.1	2244.1	2179.9
17°	1575.0	1604.3	1689.3	1817.1	1968.5	2095.4	2191.6	2250.6	2267.3	2240.3	2175.8
17.5°	1556.9	1585.7	1673.5	1804.5	1959.2	2089.3	2186.9	2246.8	2264.0	2236.6	2170.6
18°	1538.3	1568.0	1658.2	1792.0	1950.0	2082.4	2182.3	2242.7	2260.3	2232.4	2165.5
18.5°	1520.2	1550.4	1642.4	1779.0	1940.7	2075.9	2177.1	2238.5	2256.1	2227.8	2160.0
19°	1501.6	1532.3	1626.1	1765.5	1930.9	2068.9	2171.6	2233.8	2251.9	2223.1	2154.4
19.5°	1482.6	1514.2	1610.3	1752.5	1920.7	2061.0	2165.5	2228.7	2247.3	2217.6	2148.3
20°	1464.4	1496.5	1593.6	1739.0	1910.5	2053.6	2159.5	2223.1	2242.2	2212.0	2141.8
20.5°	1445.9	1478.4	1577.8	1725.1	1899.8	2045.2	2153.0	2217.1	2236.6	2206.0	2134.4
21°	1427.3	1460.3	1561.5	1711.1	1888.6	2036.8	2146.0	2211.1	2231.0	2199.4	2127.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1371.5	1405.9	1511.8	1668.4	1851.9	2009.4	2123.3	2190.2	2212.0	2178.1	2103.3
23°	1352.5	1387.3	1494.6	1653.1	1838.9	1998.7	2114.9	2182.7	2205.5	2170.6	2094.9
23.5°	1334.4	1369.7	1478.4	1638.2	1824.5	1988.1	2106.1	2174.8	2198.5	2162.7	2086.1
24°	1315.8	1351.1	1461.2	1621.5	1810.1	1976.4	2096.3	2167.4	2192.0	2154.8	2076.8
24.5°	1296.7	1333.0	1444.5	1605.7	1795.2	1963.9	2087.0	2159.0	2185.5	2146.0	2067.0
25°	1278.6	1314.8	1426.8	1589.0	1779.9	1950.9	2077.3	2150.7	2178.5	2137.7	2057.3
25.5°	1260.5	1296.3	1410.1	1572.2	1764.6	1937.4	2067.5	2142.8	2169.2	2129.3	2046.6
26°	1242.4	1278.1	1392.9	1554.6	1748.3	1923.9	2056.8	2134.9	2159.0	2121.4	2036.4
26.5°	1224.2	1260.5	1375.7	1537.8	1731.6	1909.1	2046.1	2126.5	2148.3	2112.6	2025.2
27°	1206.1	1241.9	1358.5	1520.2	1714.4	1893.7	2035.0	2117.7	2137.2	2103.7	2014.1
27.5°	1188.5	1224.2	1341.3	1502.5	1696.7	1878.4	2023.8	2106.1	2119.5	2092.1	2002.9
28°	1170.3	1206.1	1323.7	1484.4	1679.1	1862.1	2012.2	2094.4	2095.4	2080.0	1991.3
28.5°	1153.2	1188.5	1306.5	1466.3	1661.0	1845.4	2000.1	2082.8	2070.8	2068.0	1979.2
29°	1136.0	1170.3	1288.4	1447.7	1642.8	1828.2	1987.6	2069.8	2048.0	2055.0	1966.7
29.5°	1118.3	1153.6	1270.7	1429.6	1623.8	1810.1	1974.6	2049.8	2020.6	2035.0	1954.1
30°	1101.6	1136.4	1252.6	1410.5	1605.2	1791.5	1961.6	2024.8	1993.2	2010.8	1941.6
30.5°	1084.4	1118.8	1234.5	1392.0	1585.2	1773.4	1947.6	2000.6	1965.8	1986.2	1928.6
31°	1067.7	1100.2	1216.3	1372.9	1566.2	1754.8	1933.2	1977.4	1937.9	1962.5	1915.6
31.5°	1050.9	1084.4	1197.8	1353.9	1545.7	1734.8	1918.4	1950.0	1907.2	1936.0	1902.1
32°	1034.2	1067.2	1179.6	1334.8	1525.8	1715.3	1904.0	1922.5	1877.9	1909.1	1888.6
32.5°	1018.0	1050.9	1161.5	1315.8	1505.3	1694.9	1889.6	1894.7	1848.7	1882.6	1875.2
33°	1001.7	1034.2	1143.4	1296.3	1484.4	1674.4	1874.2	1867.7	1818.0	1854.7	1861.2
33.5°	985.4	1018.0	1125.3	1277.2	1462.6	1653.5	1858.4	1838.4	1786.9	1826.8	1846.8
34°	969.6	1001.7	1106.7	1257.2	1442.1	1632.2	1841.7	1809.6	1755.3	1797.1	1830.6
34.5°	952.9	985.0	1088.1	1237.7	1419.8	1609.4	1823.1	1779.4	1724.2	1768.8	1812.9
35°	937.1	967.8	1070.0	1217.7	1398.0	1588.0	1804.5	1750.6	1693.0	1739.5	1794.3
35.5°	921.3	952.9	1051.9	1198.2	1375.7	1564.8	1784.6	1720.0	1661.0	1710.7	1776.2
36°	906.0	936.6	1034.2	1178.2	1352.5	1542.0	1764.1	1689.8	1628.4	1680.5	1757.1
36.5°	890.2	920.9	1015.6	1158.7	1329.7	1518.8	1739.0	1658.6	1597.3	1650.3	1733.9
37°	874.4	905.1	998.0	1138.8	1307.4	1494.6	1709.8	1628.4	1564.8	1621.0	1705.6
37.5°	858.6	888.8	979.9	1118.3	1283.7	1470.0	1680.5	1597.3	1531.8	1590.8	1678.2
38°	842.8	873.0	962.2	1098.3	1260.0	1445.4	1652.1	1566.2	1498.4	1560.1	1650.3
38.5°	827.5	857.2	945.0	1077.9	1236.3	1420.8	1622.9	1533.7	1467.7	1529.0	1622.4
39°	812.6	841.9	927.4	1057.9	1213.1	1395.7	1591.7	1504.4	1435.6	1499.8	1591.7
39.5°	796.8	826.5	909.7	1037.5	1189.4	1370.1	1560.6	1472.3	1402.6	1469.6	1561.5
40°	781.5	810.3	892.5	1017.0	1165.7	1344.1	1529.5	1440.3	1369.2	1438.4	1530.4
40.5°	766.1	794.9	875.3	997.0	1141.1	1318.6	1498.4	1408.7	1340.4	1406.8	1499.8
41°	750.8	779.6	858.6	976.6	1117.4	1292.5	1466.3	1379.4	1309.3	1378.5	1469.1
41.5°	735.9	764.3	841.4	956.6	1093.2	1266.5	1434.7	1348.3	1276.3	1348.3	1436.6
42°	720.6	748.9	824.7	936.2	1069.5	1240.5	1402.6	1315.8	1246.1	1316.7	1405.4
42.5°	705.7	733.6	808.0	916.7	1045.8	1213.6	1371.5	1286.5	1217.3	1287.9	1373.4
43°	690.9	718.3	791.2	896.7	1021.7	1187.5	1339.9	1257.2	1187.1	1259.1	1342.7
43.5°	675.5	703.4	774.5	876.7	997.5	1161.1	1308.3	1225.6	1153.6	1228.9	1310.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	631.4	658.3	725.7	817.7	926.9	1081.6	1214.0	1138.8	1068.6	1144.3	1218.2
45.5°	616.5	643.5	709.5	798.2	903.2	1055.6	1182.0	1106.7	1041.2	1113.7	1187.5
46°	602.6	629.1	693.7	779.1	880.0	1029.6	1150.8	1079.3	1016.6	1084.9	1156.9
46.5°	587.3	614.2	677.4	759.6	856.7	1003.1	1121.1	1053.3	988.7	1061.2	1128.1
47°	572.9	599.3	661.6	741.0	833.5	977.1	1090.9	1024.0	958.5	1033.3	1097.9
47.5°	558.5	584.5	645.3	722.0	810.7	951.1	1060.2	993.3	937.1	1003.1	1068.6
48°	544.5	570.1	630.5	703.4	788.0	925.5	1029.6	970.6	913.9	979.4	1039.3
48.5°	529.7	555.2	614.7	684.8	766.1	900.4	1002.2	944.5	886.5	955.7	1012.8
49°	515.7	541.3	599.3	667.2	744.3	875.3	973.8	915.3	862.3	928.3	984.5
49.5°	501.8	526.9	584.0	649.1	722.9	850.7	944.5	889.7	841.9	901.3	956.6
50°	487.4	512.5	568.7	630.9	701.1	825.1	916.2	867.0	818.6	880.0	928.7
50.5°	473.0	498.1	553.8	613.3	680.6	801.4	890.7	841.4	792.6	856.3	904.6
51°	459.5	484.1	538.9	596.6	660.2	776.8	863.2	814.0	775.0	827.9	878.1
51.5°	445.6	470.2	524.1	579.4	640.7	754.1	836.3	794.9	755.9	808.9	852.1
52°	432.1	456.2	509.7	562.6	620.7	729.9	812.6	772.6	731.3	787.5	827.0
52.5°	418.6	442.3	495.3	546.4	601.2	707.6	788.0	746.2	713.6	763.3	805.6
53°	406.1	428.4	481.3	530.1	582.6	684.4	762.0	727.1	696.4	740.6	779.6
53.5°	394.0	414.9	466.9	514.3	565.0	662.5	738.3	708.1	676.5	722.9	755.5
54°	386.6	401.9	453.0	498.5	546.8	640.2	716.0	685.8	657.0	701.6	734.1
54.5°	381.4	388.9	439.5	483.2	529.7	618.9	693.2	665.3	642.1	678.8	713.2
55°	375.9	376.8	426.0	468.8	512.9	598.4	670.0	648.6	624.9	663.0	689.9
55.5°	370.8	365.2	413.0	454.4	496.7	577.5	650.4	629.5	605.8	644.9	669.0
56°	364.7	359.1	399.6	440.4	480.9	558.0	629.1	609.6	592.4	623.0	649.5
56.5°	358.7	354.0	386.6	426.5	465.5	539.4	607.7	594.2	577.0	607.7	629.1
57°	353.1	348.5	374.0	413.0	450.2	520.8	589.1	577.0	559.4	591.9	608.6
57.5°	346.6	342.9	361.5	399.6	436.3	502.7	570.5	558.5	546.8	572.9	591.9
58°	340.6	336.8	349.8	387.0	421.9	486.0	550.6	545.0	532.9	557.5	572.9
58.5°	333.6	331.3	337.8	374.9	408.9	469.3	533.8	529.7	516.6	543.6	554.3
59°	326.2	324.8	326.2	362.9	396.3	453.5	516.6	512.0	503.2	526.9	538.0
59.5°	319.2	318.7	314.5	350.8	383.8	437.7	499.0	499.5	488.8	512.0	521.3
60°	311.8	312.2	303.9	339.6	371.2	422.8	483.2	485.5	474.8	499.0	503.6
60.5°	303.9	305.2	292.7	328.0	358.7	408.4	467.9	469.7	461.8	483.2	488.8
61°	296.4	298.3	282.5	317.8	346.1	394.9	451.6	457.6	448.3	469.3	473.9
61.5°	289.0	291.3	273.7	307.1	335.0	381.9	437.7	443.7	435.8	456.2	458.1
62°	281.1	283.9	264.8	296.9	324.3	368.4	423.7	429.3	423.3	441.8	444.2
62.5°	273.7	276.4	259.7	287.1	313.6	355.0	408.9	417.2	411.6	429.3	430.7
63°	266.2	269.5	254.1	277.4	302.9	343.3	396.3	404.7	400.5	417.2	415.8
63.5°	258.8	262.0	249.0	268.1	293.2	331.7	383.8	392.1	388.9	403.3	403.7
64°	250.9	255.1	243.9	259.3	283.4	320.6	371.7	380.0	377.7	391.7	391.7
64.5°	243.5	247.6	238.3	250.0	273.7	309.4	359.1	368.0	366.1	380.0	379.1
65°	236.0	240.7	232.8	241.6	264.8	299.2	346.6	355.9	355.0	368.4	367.0
65.5°	228.6	233.2	227.2	233.7	255.5	289.0	335.0	346.1	343.8	356.8	354.5
66°	221.2	226.3	221.6	225.3	246.7	278.8	323.8	334.1	333.1	345.7	342.9



TEST NUMBER: P776631

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	201.6	204.9	203.5	202.6	222.1	250.4	290.8	302.9	302.0	313.6	309.9
68°	195.1	198.4	197.0	195.6	214.2	241.6	280.6	292.7	292.2	302.9	299.2
68.5°	189.1	191.9	191.0	188.6	206.3	233.2	270.4	282.5	282.0	292.7	288.5
69°	183.1	185.4	185.4	181.7	198.9	224.9	260.2	272.7	272.7	282.5	278.3
69.5°	177.0	179.3	179.3	175.2	191.4	216.0	250.9	263.0	263.0	272.7	268.1
70°	171.0	173.3	172.8	169.1	184.4	208.1	241.1	253.2	253.2	263.0	258.8
70.5°	165.4	166.3	167.3	163.1	177.0	200.2	231.8	244.4	244.4	253.2	249.0
71°	159.8	161.2	161.7	157.5	170.5	192.8	223.0	234.6	235.1	244.4	239.7
71.5°	154.2	155.6	155.6	151.5	163.5	184.9	213.7	225.8	225.8	234.6	230.4
72°	148.2	150.1	149.6	145.9	157.0	177.5	204.9	216.5	216.5	225.3	221.6
72.5°	142.6	144.5	144.0	139.8	150.5	170.5	196.5	207.7	207.7	216.0	212.3
73°	137.1	138.9	138.0	134.7	144.5	163.1	188.2	199.3	198.9	207.7	204.0
73.5°	131.0	133.3	132.4	129.6	138.0	156.1	179.8	190.5	190.0	198.4	195.1
74°	125.4	127.3	126.4	125.0	131.9	149.6	171.4	181.7	181.2	189.6	186.8
74.5°	119.9	121.7	121.3	120.8	125.9	142.6	163.5	173.3	172.8	181.2	178.4
75°	114.3	116.2	116.2	116.2	120.3	136.1	155.6	165.4	164.5	172.8	170.5
75.5°	108.7	110.6	110.6	111.5	114.3	130.1	147.7	157.0	156.1	164.0	162.1
76°	103.1	105.0	105.0	106.4	108.7	123.6	140.8	148.7	147.7	156.1	154.2
76.5°	97.6	99.4	99.9	101.7	103.1	117.1	132.9	140.3	139.4	147.7	146.4
77°	92.5	93.9	94.8	97.1	98.0	111.0	125.9	132.9	131.9	139.8	138.9
77.5°	86.9	88.3	89.7	92.0	92.5	105.0	118.5	125.0	123.6	131.5	131.5
78°	81.8	82.7	84.6	87.3	87.3	99.0	111.5	117.5	115.7	124.1	124.1
78.5°	76.2	77.6	79.4	82.7	82.2	92.9	104.5	109.6	108.3	116.2	117.1
79°	71.1	72.0	74.8	77.6	77.1	87.3	98.0	102.2	100.4	108.3	109.6
79.5°	65.5	66.4	69.7	72.9	72.5	81.8	91.5	94.3	92.9	100.8	102.7
80°	60.4	60.9	64.6	68.3	67.4	76.2	85.0	86.9	85.5	93.4	96.2
80.5°	55.3	55.8	59.9	63.7	62.7	70.6	78.5	79.9	78.1	86.0	89.2
81°	50.2	50.2	55.3	59.0	58.1	65.5	72.5	72.5	70.6	78.5	82.7
81.5°	45.1	45.1	50.6	54.4	53.9	60.4	66.4	65.5	63.7	71.5	76.7
82°	40.0	40.0	46.5	50.2	49.2	55.3	60.4	59.5	56.7	64.6	70.2
82.5°	34.8	35.8	41.8	45.5	45.1	50.6	54.8	53.0	50.2	58.1	64.6
83°	30.2	31.1	37.6	41.4	40.9	45.5	49.7	47.4	43.7	51.6	58.5
83.5°	25.1	26.9	33.9	37.2	36.7	41.4	44.6	42.3	37.2	46.5	53.0
84°	20.4	23.2	29.7	32.5	32.5	36.7	40.0	36.7	30.7	40.9	47.9
84.5°	16.7	19.5	26.0	28.3	28.3	32.1	34.8	31.1	24.2	35.8	43.2
85°	14.9	16.7	22.3	24.2	24.6	27.4	30.2	25.6	20.4	30.7	38.1
85.5°	12.5	14.4	18.6	20.0	20.4	22.8	25.1	21.8	17.7	25.1	33.5
86°	10.2	11.6	15.3	15.8	16.7	18.6	20.9	18.1	14.9	21.4	28.3
86.5°	8.4	9.3	11.6	12.1	13.0	14.4	16.3	14.9	12.5	18.1	23.7
87°	6.0	6.5	8.4	8.4	9.3	10.2	12.1	11.2	9.8	14.9	19.0
87.5°	4.2	4.2	4.6	5.1	5.6	6.5	7.9	7.9	7.4	11.2	14.9
88°	2.3	1.9	1.9	1.4	2.3	3.3	4.2	5.1	5.1	7.9	10.7
88.5°	0.9	0.5	0.5	0.5	0.5	0.9	1.4	2.3	2.3	4.6	6.5



TEST NUMBER: P776631

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0



TEST NUMBER: P776631

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2114.9	2114.9	2114.9	2114.9	2114.9	2114.9
0.5°	2118.1	2117.2	2112.1	2107.5	2104.2	2102.3
1°	2121.9	2116.7	2107.0	2098.6	2093.1	2090.3
1.5°	2125.6	2115.8	2101.9	2089.3	2081.4	2077.7
2°	2128.8	2114.4	2095.8	2080.5	2069.4	2065.2
2.5°	2131.6	2113.0	2089.8	2070.3	2056.8	2051.7
3°	2134.4	2111.2	2083.8	2060.5	2044.7	2038.7
3.5°	2136.7	2108.9	2077.3	2050.3	2032.2	2024.8
4°	2138.6	2106.5	2070.3	2040.1	2018.7	2010.8
4.5°	2140.0	2103.7	2063.3	2028.5	2005.2	1996.4
5°	2141.4	2101.0	2056.3	2017.8	1991.3	1982.0
5.5°	2142.3	2097.2	2048.9	2006.2	1977.8	1966.7
6°	2143.2	2094.0	2041.0	1994.6	1963.4	1951.8
6.5°	2143.7	2090.3	2032.7	1982.5	1949.0	1936.9
7°	2143.7	2086.1	2024.3	1971.3	1934.6	1921.1
7.5°	2143.2	2081.9	2015.9	1958.8	1919.8	1904.9
8°	2142.8	2077.3	2007.1	1946.2	1904.4	1889.6
8.5°	2141.8	2072.1	1998.3	1933.7	1889.1	1873.3
9°	2140.4	2067.0	1989.0	1920.7	1873.3	1856.6
9.5°	2139.0	2061.9	1979.2	1907.2	1858.0	1839.8
10°	2137.2	2056.3	1969.5	1893.7	1842.2	1823.1
10.5°	2134.9	2050.3	1959.7	1880.7	1826.4	1805.9
11°	2132.5	2044.3	1949.5	1866.8	1810.1	1789.2
11.5°	2129.8	2037.8	1939.3	1852.9	1793.4	1772.0
12°	2126.5	2030.8	1928.6	1838.9	1777.1	1753.9
12.5°	2123.3	2024.3	1917.9	1824.5	1760.4	1736.7
13°	2119.5	2017.3	1907.2	1810.1	1743.7	1719.5
13.5°	2114.9	2009.9	1896.1	1795.7	1726.9	1701.4
14°	2111.2	2002.5	1885.4	1781.3	1709.8	1683.7
14.5°	2106.5	1994.6	1873.8	1766.4	1692.6	1665.6
15°	2101.4	1986.2	1862.1	1751.1	1675.4	1647.5
15.5°	2096.3	1978.3	1850.5	1736.2	1657.7	1629.4
16°	2090.7	1969.9	1838.9	1720.9	1640.5	1611.3
16.5°	2085.2	1961.1	1826.8	1706.0	1623.3	1593.6
17°	2078.7	1952.3	1814.8	1690.7	1605.7	1575.0
17.5°	2072.1	1943.0	1802.2	1674.9	1588.0	1556.9
18°	2065.6	1933.7	1790.1	1659.1	1570.4	1538.3
18.5°	2058.7	1923.9	1777.1	1643.8	1552.3	1520.2
19°	2051.2	1913.7	1764.1	1627.5	1534.6	1501.6
19.5°	2043.8	1904.0	1751.1	1612.2	1517.4	1482.6
20°	2035.9	1893.3	1738.1	1596.4	1499.3	1464.4
20.5°	2027.1	1882.6	1724.6	1580.1	1481.6	1445.9
21°	2018.7	1871.4	1710.7	1563.9	1463.5	1427.3

TEST NUMBER: P776631

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1990.8	1836.6	1668.9	1515.5	1409.6	1371.5
23°	1981.1	1824.0	1654.0	1499.3	1391.0	1352.5
23.5°	1970.4	1811.0	1640.1	1483.0	1373.8	1334.4
24°	1959.7	1796.6	1625.2	1466.3	1355.7	1315.8
24.5°	1948.6	1783.2	1609.9	1450.0	1337.6	1296.7
25°	1936.9	1767.8	1594.1	1433.3	1319.0	1278.6
25.5°	1924.9	1753.0	1578.7	1416.6	1301.8	1260.5
26°	1911.9	1736.7	1562.5	1399.9	1283.7	1242.4
26.5°	1898.4	1720.9	1545.7	1383.1	1265.6	1224.2
27°	1884.4	1705.1	1529.0	1366.4	1247.9	1206.1
27.5°	1869.6	1687.9	1511.8	1349.2	1230.3	1188.5
28°	1853.8	1669.8	1494.2	1332.0	1212.2	1170.3
28.5°	1838.0	1653.1	1477.0	1315.3	1194.5	1153.2
29°	1821.7	1635.0	1459.3	1298.6	1177.3	1136.0
29.5°	1804.5	1616.4	1441.7	1281.4	1160.1	1118.3
30°	1787.8	1597.3	1423.1	1263.7	1142.9	1101.6
30.5°	1770.2	1577.8	1405.4	1246.5	1125.7	1084.4
31°	1751.6	1557.8	1386.4	1228.9	1108.6	1067.7
31.5°	1732.1	1537.4	1367.8	1211.2	1091.4	1050.9
32°	1712.5	1517.4	1348.8	1194.0	1075.1	1034.2
32.5°	1692.6	1496.5	1330.2	1175.9	1058.4	1018.0
33°	1671.7	1474.7	1310.7	1158.3	1041.6	1001.7
33.5°	1650.7	1453.3	1291.1	1140.6	1025.4	985.4
34°	1628.4	1431.9	1271.6	1122.5	1009.1	969.6
34.5°	1606.6	1409.6	1252.1	1104.4	993.3	952.9
35°	1584.3	1387.8	1232.1	1086.3	977.1	937.1
35.5°	1561.5	1364.6	1212.6	1068.6	961.3	921.3
36°	1538.3	1342.7	1192.6	1051.4	945.0	906.0
36.5°	1514.2	1319.9	1172.7	1033.8	929.7	890.2
37°	1490.5	1296.3	1152.7	1016.1	913.9	874.4
37.5°	1466.3	1273.5	1132.7	998.0	898.5	858.6
38°	1441.7	1249.3	1112.7	980.3	882.3	842.8
38.5°	1416.6	1226.1	1092.3	963.1	867.0	827.5
39°	1392.0	1202.4	1072.3	945.9	852.1	812.6
39.5°	1366.9	1179.2	1052.3	929.2	836.8	796.8
40°	1341.3	1155.0	1032.4	911.6	820.5	781.5
40.5°	1315.3	1131.3	1011.9	894.4	805.6	766.1
41°	1289.3	1107.6	991.9	877.6	790.8	750.8
41.5°	1263.7	1083.9	971.5	860.5	775.0	735.9
42°	1237.2	1060.7	951.5	843.7	760.1	720.6
42.5°	1212.2	1037.0	931.5	827.0	744.8	705.7
43°	1185.7	1013.3	912.0	810.3	730.4	690.9
43.5°	1159.2	990.1	892.0	793.5	714.6	675.5



TEST NUMBER: P776631

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1082.1	921.3	834.0	744.8	670.9	631.4
45.5°	1056.5	898.5	814.5	729.0	655.6	616.5
46°	1030.5	876.2	796.3	713.2	641.6	602.6
46.5°	1005.4	853.9	776.8	696.9	626.8	587.3
47°	979.9	832.1	758.2	681.1	612.4	572.9
47.5°	955.2	810.3	739.7	665.3	597.5	558.5
48°	930.1	788.9	722.0	650.0	583.5	544.5
48.5°	906.0	767.5	703.9	634.7	569.1	529.7
49°	881.4	747.1	685.8	619.3	554.7	515.7
49.5°	857.7	726.6	668.1	604.0	540.3	501.8
50°	833.5	705.7	651.4	588.7	526.4	487.4
50.5°	810.3	686.2	633.7	573.8	512.5	473.0
51°	787.5	666.7	617.0	558.9	498.1	459.5
51.5°	765.2	647.7	600.3	544.5	484.1	445.6
52°	742.4	629.1	584.0	529.7	470.6	432.1
52.5°	719.7	610.5	567.7	515.7	457.2	418.6
53°	697.8	592.8	552.4	501.3	443.2	406.1
53.5°	676.9	575.6	536.2	487.4	429.3	394.0
54°	655.6	558.5	520.8	473.4	416.3	386.6
54.5°	635.6	542.2	506.4	460.0	403.3	381.4
55°	616.1	526.4	491.6	446.5	390.7	375.9
55.5°	596.6	510.6	477.6	433.5	378.2	370.8
56°	578.0	495.7	463.2	420.5	366.6	364.7
56.5°	559.9	480.9	449.7	407.5	360.1	358.7
57°	542.7	466.5	436.3	394.9	355.0	353.1
57.5°	525.5	452.5	423.7	382.4	349.4	346.6
58°	509.2	439.1	411.2	370.3	343.8	340.6
58.5°	493.4	426.0	398.6	358.7	337.8	333.6
59°	477.6	413.5	386.6	347.1	331.7	326.2
59.5°	462.7	401.0	374.9	335.4	326.2	319.2
60°	448.3	388.4	363.3	324.3	319.6	311.8
60.5°	434.4	376.8	352.2	313.6	313.1	303.9
61°	420.9	365.2	341.0	302.9	306.6	296.4
61.5°	407.5	354.5	330.8	293.2	299.7	289.0
62°	395.4	343.3	320.6	283.4	292.2	281.1
62.5°	383.3	332.7	310.8	274.1	285.3	273.7
63°	371.2	322.4	300.6	265.8	278.3	266.2
63.5°	359.1	312.2	291.3	259.3	271.3	258.8
64°	347.1	302.0	281.6	254.1	263.9	250.9
64.5°	335.4	292.7	272.7	249.0	256.9	243.5
65°	324.8	283.4	263.9	243.9	250.0	236.0
65.5°	314.1	274.6	255.5	238.3	243.0	228.6
66°	303.9	265.3	247.2	232.8	235.6	221.2



TEST NUMBER: P776631

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	274.6	240.2	223.5	216.0	214.6	201.6
68°	264.8	231.8	216.0	210.0	207.7	195.1
68.5°	256.0	223.9	209.1	204.4	201.2	189.1
69°	247.2	216.0	201.6	198.4	194.7	183.1
69.5°	238.3	208.6	194.7	192.3	188.2	177.0
70°	230.0	201.2	188.2	186.3	182.1	171.0
70.5°	221.6	194.2	181.7	180.3	176.1	165.4
71°	213.7	186.8	174.7	174.2	170.0	159.8
71.5°	205.4	179.8	169.1	168.2	164.5	154.2
72°	197.9	172.8	163.1	162.6	158.4	148.2
72.5°	190.0	167.3	157.0	156.6	152.9	142.6
73°	182.6	160.8	151.5	151.0	146.8	137.1
73.5°	175.2	154.2	145.4	145.0	141.2	131.0
74°	168.2	147.3	139.8	139.4	135.2	125.4
74.5°	160.8	140.8	134.3	133.8	129.6	119.9
75°	153.8	134.7	129.2	128.2	123.6	114.3
75.5°	147.3	128.7	124.1	123.1	118.0	108.7
76°	140.3	122.7	119.4	117.5	112.0	103.1
76.5°	133.8	117.1	114.8	112.0	106.4	97.6
77°	127.3	111.0	110.1	106.9	100.8	92.5
77.5°	120.8	105.5	105.5	101.3	95.2	86.9
78°	114.8	99.9	100.4	96.2	89.7	81.8
78.5°	108.3	94.8	95.7	91.1	84.1	76.2
79°	102.2	89.2	90.6	86.0	78.5	71.1
79.5°	96.2	84.1	86.0	80.8	72.9	65.5
80°	90.1	79.0	80.8	75.7	67.4	60.4
80.5°	84.6	73.9	76.2	70.6	62.3	55.3
81°	79.0	68.8	71.1	66.0	56.7	50.2
81.5°	73.4	64.1	66.4	60.9	51.6	45.1
82°	67.8	59.5	61.8	56.2	46.9	40.0
82.5°	62.7	54.8	57.1	51.6	41.8	34.8
83°	57.6	50.2	52.5	47.4	37.2	30.2
83.5°	52.5	45.5	47.9	42.7	32.5	25.1
84°	47.4	41.4	43.7	38.6	28.3	20.4
84.5°	42.7	36.7	39.0	34.4	24.6	16.7
85°	38.1	32.5	34.4	30.2	20.9	14.9
85.5°	33.5	28.3	30.2	26.0	18.1	12.5
86°	28.8	24.6	25.6	22.3	15.3	10.2
86.5°	23.7	20.4	21.4	18.1	12.5	8.4
87°	19.5	16.7	17.2	14.4	9.8	6.0
87.5°	15.3	13.0	13.0	11.2	7.0	4.2
88°	11.2	9.3	9.3	7.4	4.6	2.3
88.5°	7.0	5.6	5.6	3.7	2.3	0.9



TEST NUMBER: P776631

CATALOG NUMBER: HCDJBL54050CSD-HCD4TQSH-HCD4TSQLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.5	0.0



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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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Peachtree City, GA 30269

Scaled Data Report



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Scaled Data Report





21.5°	1408.2	1442.1	1544.8	1697.2	1877.0	2028.0	2138.6	2204.1	2225.0	2192.5	2119.5
22°	1390.1	1424.0	1528.1	1682.8	1864.9	2018.7	2131.2	2197.6	2218.5	2185.5	2112.1



44°	661.1	688.5	758.2	857.2	973.8	1134.6	1275.3	1194.0	1127.6	1197.3	1278.6
44.5°	646.3	673.7	742.0	837.2	950.1	1108.6	1244.7	1167.6	1099.7	1171.7	1247.9



66.5°	214.6	219.3	215.1	217.4	238.3	269.0	312.2	323.8	322.4	334.5	331.7
67°	207.7	211.9	209.1	210.0	230.0	259.7	301.5	313.1	312.2	324.3	320.1



89°	0.0	0.5	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.9	2.8
89.5°	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.9

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21.5°	2009.9	1860.3	1696.7	1548.1	1445.4	1408.2
22°	2000.6	1848.2	1682.8	1531.8	1427.3	1390.1



44°	1133.2	967.3	872.5	777.3	700.6	661.1
44.5°	1108.1	944.1	853.0	761.0	685.3	646.3



66.5°	293.6	256.9	239.3	227.7	228.6	214.6
67°	283.9	248.1	231.4	222.1	221.6	207.7



89°	3.3	1.9	1.9	1.4	0.5	0.0
89.5°	0.9	0.5	0.5	0.5	0.5	0.0

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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)